

### **REMARKS**

Claims 1-46 were presented for examination, and claims 1-46 are rejected. In the present amendment, claims 1, 6, 13, 21, 24, 26, 27, 29, 30, 32, 35, 37, 41, 42, and 44 have been amended, and claim 5 canceled. No new matter has been introduced. Upon entry of the present amendment, claims 1-4 and 6-46 will be pending in this application, of which claims 1, 30, 35, 41, 42, and 44 are independent. Applicant submits that pending claims 1-4 and 6-46 are in condition for allowance.

The following comments address all stated grounds of rejection. Applicant urges the Examiner to pass the claims to allowance in view of the remarks set forth below.

#### **Claim Amendments**

Claims 1, 6, 13, 21, 24, 26, 27, 29, 30, 32, 35, 37, 41, 42, and 44 have been amended to clarify and more fully appreciate the Applicant's claimed invention. Claim 5 has been canceled. Support for the amendments can be found on page 7, lines 21-32, Figures 4 and 8; and throughout the remainder of the specification. No new matter has been introduced. Applicant submits that the presently pending claims are in condition for allowance.

#### **Claim Rejections under 35 USC § 102**

##### **I. Claims 41, 42, and 44 Rejected under 35 U.S.C. §102**

Claims 41, 42, and 44 are rejected under 35 U.S.C. 102(e) as anticipated by Yip.

Applicant respectfully traverses this rejection.

##### **A. Claim 41 Patentability Distinguished Over Yip**

Amended claim 41 is directed towards a method of providing *SDH/SONET* APS functionality on an Ethernet protocol network. The method recites configuring an Ethernet APS

Bridge Selector in bridge mode to provide *a SDH/SONET bridge*, and *bridging transmit traffic to working and protect channels on an Ethernet protocol network*. Applicant submits that Yip does not disclose each and every element of amended claim 41.

Yip fails to disclose *a SDH/SONET bridge that bridges transmit traffic to working and protect channels on an Ethernet protocol network*. Rather than providing a SDH/SONET bridge as in the claimed invention, Yip describes an Ethernet bridge. The term bridge used in Yip refers to Ethernet MAC bridging as defined by the Ethernet standard IEEE 802.1D (see column 1, lines 35-37 and 50-56 of Yip). Ethernet bridging is provisioned at layer-2 of the network, or the data link frame layer in the Open Systems Interconnection (OSI) reference model (see column 2, lines 6-8 of Yip). As such, the Ethernet Bridge of YIP provides an interconnection between separate IEEE 802 local area networks (LANs) to form a bridged LAN by which frames between the separate medium access control (MAC) devices of the bridged LAN are filtered and relayed. In contrast to an Ethernet Bridge, the claimed invention provides a SDH/SONET bridge which *transmits traffic on a working and a protect channel* and is provisioned at layer-1 of the network. Although the claimed invention and Yip refer to the term bridge, the term has different meanings in the context of the network layer and applicable Ethernet and *SDH/SONET* standards. The Ethernet APS Bridge Selector of the claimed invention is configured to provide a *SDH/SONET bridge* on an Ethernet protocol network. Instead of providing a *SDH/SONET bridge* on an Ethernet protocol network, Yip provides an Ethernet bridge on an Ethernet protocol network. Thus, Yip fails to disclose *a SDH/SONET bridge that bridges transmit traffic to working and protect channels on an Ethernet protocol network*.

For at least the above-discussed reasons, Yip fails to anticipate claim 41. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claim 41 under 35 U.S.C. §102.

B. Claim 42 Patentability Distinguished Over Yip

Amended claim 42 is directed towards a method of providing SDH/SONET APS functionality on an Ethernet protocol network. The method includes *configuring an Ethernet APS Bridge Selector in selector mode to provide a SDH/SONET selector on an Ethernet protocol network, selecting receive traffic from working or protect channels*, and switching from an active channel to a standby channel or a specified channel when requested. Applicant submits that Yip does not disclose each and every element of amended claim 42.

Yip fails to disclose *configuring an Ethernet APS Bridge Selector in selector mode to provide a SDH/SONET selector on an Ethernet protocol network that selects receive traffic from a working channel or protect channel*. Rather than providing a *SDH/SONET selector* as in the claimed invention, Yip describes an Ethernet bridge that blocks and unblocks traffic of a secondary port. In the context of Ethernet, an Ethernet bridge may also be referred to as a switch. In the context of *SDH/SONET*, a selector may also be referred to as a switch, which is different from an Ethernet bridge or switch. A selector in *SDH/SONET* selects a desired receiving signal from one of the working channel or protect channel of the *SDH/SONET selector* via which the same transmitted network traffic may be received. Yip does not select from network traffic received via a working channel or protect channel. Instead, during normal operations, the device of Yip blocks network traffic from traversing the secondary port while allowing traffic to traverse the primary port of the Ethernet bridge (see column 4, lines 53-55, Yip). While the secondary port is blocked for the data vlan, other data from the control vlan (see column 4, lines 55-57, Yip) is not blocked. During failure operation, the device of Yip continues transmitting data over the primary and secondary ports. As such, the device of Yip does not select between the traffic received via a working or protect channel. Instead of selecting traffic from one of the working channel or protect channel of a *SDH/SONET selector*,

the device of Yip blocks and unblocks a secondary port depending on the status of the primary port. Thus, Yip fails to disclose *configuring an Ethernet APS Bridge Selector in selector mode to provide a SDH/SONET selector on an Ethernet protocol network that selects receive traffic from a working channel or protect channel.*

For at least the above-discussed reasons, Yip fails to anticipate claim 42. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claim 42 under 35 U.S.C. §102.

C. Claim 44 Patentability Distinguished Over Yip

Amended claim 44 is directed towards a method of providing *SDH/SONET APS* functionality on an Ethernet protocol network. The method includes *selecting or bridging, by an Ethernet APS Bridge Selector implementing SDH/SONET APS on an Ethernet protocol network, between a MAC hardware device and a plurality of PHY hardware devices.* The Ethernet APS Bridge Selector switches over from an active channel to one of a standby channel or a specified channel when requested. Applicant submits that Yip does not disclose each and every element of the amended claim 44.

Yip fails to disclose *selecting or bridging, by an Ethernet APS Bridge Selector implementing SDH/SONET APS on an Ethernet protocol network, between a MAC hardware device and a plurality of PHY hardware devices.* Rather, Yip describes an Ethernet bridge that uses standard Ethernet technology known in the art to block and unblock ports (see column 4, lines 57-59, Yip). As such, each Ethernet MAC device of Yip interfaces to only one PHY device. Although an Ethernet bridge may have multiple MAC and PHY devices, one MAC device is interfaced to only one PHY device. Instead of *selecting or bridging between one MAC device to a plurality of PHY devices as by the Ethernet APS Bridge Selector of the claimed*

invention, the device of Yip transmits traffic between one MAC device interfaced to only one PHY device. Thus, Yip fails to disclose *selecting or bridging, by an Ethernet APS Bridge Selector implementing SDH/SONET APS on an Ethernet protocol network, between a MAC hardware device and a plurality of PHY hardware devices.*

For at least the above-discussed reasons, Yip fails to anticipate independent claim 44. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the Examiner's rejection of claim 44 under 35 U.S.C. §102.

### **Claim Rejections under 35 USC § 103**

#### **II. Claims 1-9, 15-19, 23, 26-28, 30 and 35 Rejected under 35 U.S.C. §103**

Claims 1-9, 15-19, 23, 26-28, 30 and 35 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber. Applicant respectfully traverses this rejection.

##### **A. Independent Claim 1 Patentability Distinguished Over Yip in view of Laber**

Amended claim 1 is directed towards a device providing SDH/SONET Automatic Protection Switching (APS) functionality in an Ethernet environment. The device includes an Ethernet APS Bridge Selector for implementing *SDH/SONET APS in an Ethernet environment*. The Ethernet APS Bridge Selector provides one of a *SDH/SONET bridge or a SDH/SONET Selector*, and interconnects Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. The device also includes an Ethernet APS Bridge Selector Sublayer for managing the Ethernet APS Bridge Selector. Applicant submits that Yip in view of Laber does not teach or suggest each and every element of amended claim 1.

Yip in view of Laber fails to teach or suggest an Ethernet APS Bridge Selector that provides one of a *SDH/SONET bridge or a SDH/SONET Selector*. Instead of providing the *SDH/SONET bridge or selector* of the claimed invention, Yip discusses provision of an Ethernet bridge that blocks and unblocks a secondary port. The Ethernet bridge of Yip does not transmit traffic on a working channel and a protect channel as with a *SDH/SONET bridge*, and does not select from receive traffic on a working channel and a protect channel as with a *SDH/SONET selector*. Rather, the device of Yip blocks and unblocks a secondary port of the Ethernet bridge using technology known in the art (see column 4, lines 57-59, Yip). As such, Yip discusses an Ethernet bridge and not a *SDH/SONET bridge or a SDH/SONET selector*. Thus, Yip fails to teach or suggest an Ethernet APS Bridge Selector that provides one of a *SDH/SONET bridge or a SDH/SONET Selector*.

In the Office Action, the Examiner admits Yip fails to teach or suggest a device that interconnects Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. The Examiner cites Laber for the purpose of suggesting one ordinarily skilled in the art might modify Yip to interconnect Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. First, as Laber does not teach or suggest a *SDH/SONET Bridge or SDH/SONET selector* as discussed above, the Laber reference does not address the deficiencies of the Yip reference. Furthermore, Laber does not teach or suggest an Ethernet APS Bridge Selector interconnecting Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. Rather, Laber describes connecting two standard Ethernet transceivers to each other using a standard medium-independent interface (MII). The purpose of Laber is to connect two transceivers directly to each other to bypass the MAC device and avoid costly transmission delays (see column 2, lines 19-29, Laber). As such, Laber is not concerned with the interconnection of one MAC device to a plurality of PHY

devices via an Ethernet APS Bridge Selector as in the claimed invention. Therefore, Yip in view of Laber fails to teach or suggest each and every feature of the claimed invention.

For at least the above-discussed reasons, Yip in view of Laber fails to teach or suggest each and every element of claim 1. Claims 2-9, 15-19, 23, and 26-28 depend on and incorporate all the patentable limitations of independent claim 1. Thus, Yip in view of Laber fails to detract from the patentability of claims 2-9, 15-19, 23, and 26-28. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the Examiner's rejection of claims 1-9, 15-19, 23, and 26-28 under 35 U.S.C. §103.

B. Independent Claim 30 Patentability Distinguished Over Yip in view of Laber

Amended claim 30 recites a method of providing SDH/SONET APS functionality between a MAC hardware device and a plurality of PHY hardware devices. The method includes providing a Bridge Selector APS sublayer, and *configuring the Bridge Selector APS sublayer in a bridge mode for providing SDH/SONET bridging functionality*. The method also includes bridging a MAC hardware device to a plurality of PHY hardware devices. The Bridge Selector APS sublayer interfaces to MAC transmit signals and bridges signals to a plurality of PHY transmit signals. Applicant submits that Yip in view of Laber does not teach or suggest each and every element of amended claim 30.

Yip in view of Laber fails to teach or suggest configuring *the Bridge Selector APS sublayer in a bridge mode to provide SDH/SONET bridging functionality*. In contrast to the *SDH/SONET bridging* of the claimed invention, Yip provides an Ethernet bridge that blocks and unblocks a secondary port instead of transmitting traffic on a working channel and a protect channel. The device of Yip blocks and unblocks a secondary port of the Ethernet bridge using technology known in the art (see column 4, lines 57-59, Yip). As such, the device of Yip

describes an Ethernet bridge and not *SDH/SONET bridging functionality*. Thus, Yip fails to teach or suggest configuring *the Bridge Selector APS sublayer in a bridge mode to provide SDH/SONET bridging functionality*.

In the Office Action, the Examiner cites Laber for the purpose of suggesting one ordinarily skilled in the art might modify Yip to interconnect Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. However, Laber does not teach or suggest an Ethernet APS Bridge Selector interconnecting Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. Rather, Laber is concerned with connecting two standard Ethernet transceivers to directly bypass the MAC device and avoid costly transmission delays (see column 2, lines 19-29, Laber). As such, Laber fails to address the deficiencies of the Yip reference, and therefore, Yip in view of Laber fails to teach or suggest configuring *the Bridge Selector APS sublayer in a bridge mode to provide SDH/SONET bridging functionality*.

For at least the above-discussed reasons, Yip in view of Laber fails to teach or suggest each and every element of claim 30. Accordingly, Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claim 30 under 35 U.S.C. §103.

C. Independent Claim 35 Patentability Distinguished Over Yip in view of Laber

Amended claim 35 recites a method of providing SDH/SONET APS functionality between a MAC hardware device and a plurality of PHY hardware devices. The method includes configuring a *Bridge Selector APS Sublayer in selector mode for providing SDH/SONET Selector functionality*. The Bridge Selector APS Sublayer selects from the plurality of PHY hardware devices for connection to the MAC hardware device, interfaces to a plurality of PHY receive signals, and selects signals to MAC receive signal. When requested,



the Bridge Selector APS Sublayer switches over from an active channel to one of a standby channel or a specified channel. Applicant submits that Yip in view of Laber does not teach or suggest each and every element of amended claim 35.

Yip in view of Laber fails to teach or suggest *configuring a Bridge Selector APS Sublayer in selector mode for providing SDH/SONET Selector functionality*. As Yip describes an Ethernet Bridge using standard Ethernet technology, Yip does not describe the *SDH/SONET Selector* feature of selecting traffic received from one of a working channel or protect channel. Instead, Yip blocks and unblocks a secondary port from receiving network traffic (see column 4, lines 57-59, Yip). As such, Yip fails to teach or suggest *configuring a Bridge Selector APS Sublayer in selector mode for providing SDH/SONET Selector functionality*. In the Office Action, the Examiner cites Laber for the purpose of suggesting one ordinarily skilled in the art might modify Yip to interconnect Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. However, Laber does not teach or suggest an Ethernet APS Bridge Selector interconnecting Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. Rather, Laber is concerned with connecting two standard Ethernet transceivers to directly bypass the MAC device and avoid costly transmission delays (see column 2, lines 19-29, Laber). Therefore, Laber does not teach or suggest an Ethernet APS Bridge Selector interconnecting Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices. As such, Laber fails to address the deficiencies of the Yip reference, and therefore, Yip in view of Laber fails to teach or suggest each and every element of the claimed invention.

For at least the above-discussed reasons, Yip in view of Laber fails to teach or suggest each and every element of claim 35. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the Examiner's rejection of claim 35 under 35 U.S.C. §103.

### III. Claims Dependent from Independent Claims Patentably Distinguished

The Examiner further rejects dependent claims 10, 11, 34 and 39 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Lu. Claims 12, 14, 29, 33 and 38 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Sefidvash. Claims 13, 21, 32 and 37 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Shi. Claim 22 is rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Abbott. Claim 24 is rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Taketomi. Claims 20, 31, and 36 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Lurndal. Claim 25 is rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Laber in further view of Burnett. Claims 40, 43 and 46 are rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of the admitted prior art. Claim 45 is rejected under 35 U.S.C. 103(a) as unpatentable over Yip in view of Abbot. Applicant respectfully traverses these rejections.

None of the cited references, alone or in combination, disclose, teach, or suggest each and every feature of independent claims 1, 30, and 35 as discussed above. Claims 10, 11, 12, 13, 14, 20, 21, 22, 24, 25, 29 depend on and incorporate the patentable subject matter of independent claim 1. Claims 31, 32, 33, 34, 36, 37, and 38 depend on and incorporate the patentable subject matter of independent claim 30. Claims 40, 43, 45, and 46 depend on and incorporate the patentable subject matter of independent claim 35. As such, Applicant submits dependent claims 10, 11, 12, 13, 14, 20, 21, 22, 24, 25, 29, 31, 32, 33, 34, 36, 37, 38, 40, 43, 45, and 46 are patentable and in condition for allowance based on their dependencies in addition to their individual claim limitations. Accordingly, Applicant respectfully requests the Examiner to

withdraw the rejection of claims 10, 11, 12, 13, 14, 20, 21, 22, 24, 25, 29, 31, 32, 33, 34, 36, 37, 38, 40, 43, 45, and 46 under 35 U.S.C. §103.

**CONCLUSION**

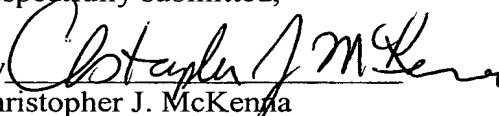
In view of the amendment and remarks set forth above, Applicant contends each of the presently pending claims in this application is in immediate condition for allowance.

Accordingly, Applicant respectfully requests the Examiner to pass the claims to allowance.

If the Examiner deems there are any remaining issues, we invite the Examiner to call the Applicant's Attorney at the telephone number identified below.

Dated: September 14, 2005

Respectfully submitted,

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